



THE UNIVERSITY
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**Archaeological building
recording of Forge Mill
Cottage, Needle Mill
Lane, Riverside,
Redditch, Worcs.
(Fieldwork reference number
WSM 30288)**

Birmingham University Field Archaeology Unit



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Birmingham University Field Archaeology Unit
Project No. 760
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**Archaeological building recording of Forge Mill Cottage, Needle Mill Lane,
Riverside, Redditch, Wores (Fieldwork reference number WSM 30288)**

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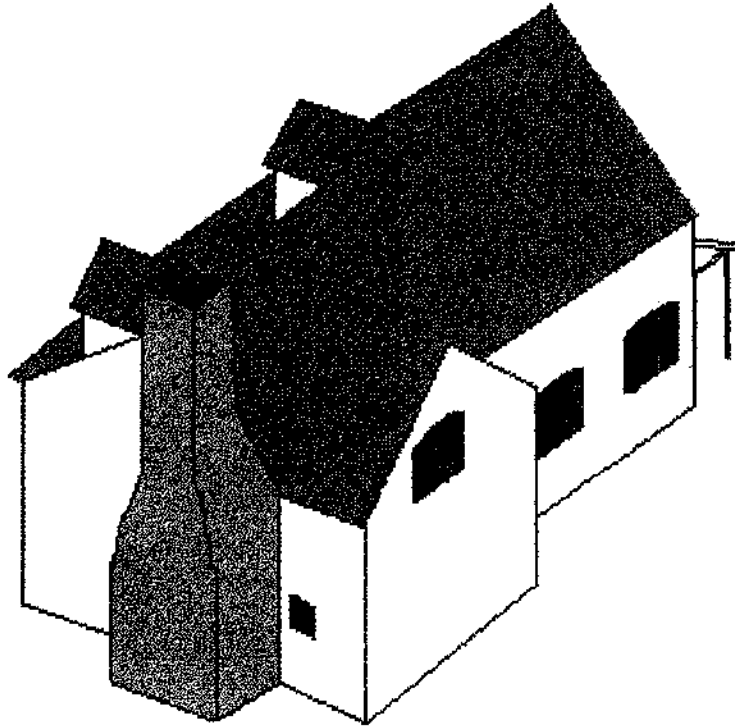
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Summary

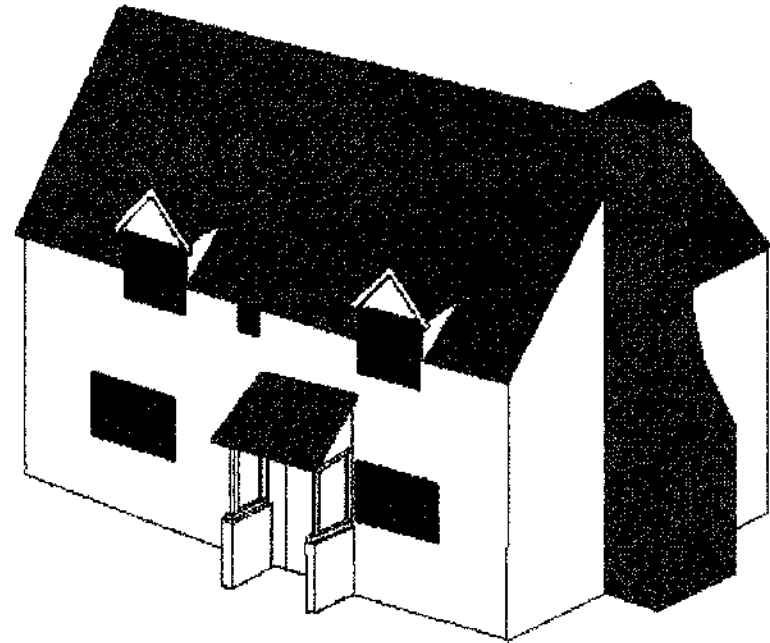
A programme of building recording (Fieldwork reference number WSM 30288) was carried out at Forge Mill Cottage (Worcestershire Sites and Monuments reference WSM 03253), Needle Mill Lane, Riverside, Redditch, Worcestershire (NGR SP 04536853) by Birmingham University Field Archaeology Unit between 11-15 December, 2000 on behalf of Redditch Borough Council. The Scheduled Ancient Monument of Forge Mill (SAM 326) lies 25m to the east and now houses the National Needle Museum. Forge Mill Cottage and Forge Mill are clearly closely associated in terms of their historical setting and development, but Forge Mill Cottage is outside of the boundary of the Scheduled Ancient Monument.

Externally, Forge Mill Cottage has the appearance of a typical Victorian cottage; but there are clues to a more complex structural history internally, including part of a timber frame. The cottage has a small, roughly L-shaped, two-cell plan measuring 10m by 6m. The exterior walls are one clamped-red-brick thick, whitewashed and rendered. The building is one-and-a-half storeys tall, the upper rooms being built into the roof space. The southern bay is earlier than the north and incorporates sandstone footings and a re-used timber cross frame. A second cross wing was added with a large chimney projecting from the north gable wall. No documentary evidence was found to date the building and extensive refurbishment limits our ability to 'read' the fabric of the building. However, a date range of 1750-1850 for the construction of both phases can be tentatively suggested. This ties in with a period of expansion in the needle-making industry in this part of the Arrow valley. The simplest functional interpretation of the building was as basic accommodation for a sluice-gate operator to regulate the power to the mill as there are a set of sluices adjacent to the building.

Forge Mill Cottage



View from NW



View from SE

Frontispiece

Archaeological building recording of Forge Mill Cottage, Needle Mill Lane, Riverside, Redditch, Worcs (Fieldwork reference number WSM 30288)

Introduction

The following short report presents the results of a programme of building recording and historical assessment carried out at Forge Mill Cottage, Needle Mill Lane, Riverside, Redditch, Worcestershire (NGR SP 04536853; Fig.1). The work was carried out by Birmingham University Field Archaeology Unit between 11-15 December, 2000 on behalf of Redditch Borough Council. The work was necessary because the building is of intrinsic historical and archaeological interest (Worcestershire Sites and Monuments reference WSM 03253). Planning application (reference R/2000/0464) proposed a change of use from offices to residential use. In line with PPG15, Section 2.15, the Planning Authority was advised that further information was required to understand the site/structure so that the district conservation officer had sufficient information upon which to comment regarding any intended work to the structure. The work was also necessary to fulfil County Structure Plan policy CTC5 and Redditch Borough Local Plan CTL2 and CTL3. A written scheme of investigation (Litherland 2000) based upon a brief provided by Worcestershire Archaeological Service (Glyde 2000) was submitted to, and agreed by, the local planning authority prior to the commencement of work.

Method

The building recording consisted of a visual inspection of the cottage, with the aim of detailed analysis and description of its history, character, date, techniques of construction, phasing and significance. In addition, primary and secondary sources relating to the area were consulted. A fully referenced photographic survey was also carried out of all external and internal elevations, room and roof spaces, together with any architectural details or fixtures and fittings and general views to illustrate the general setting. This was carried out using 35mm format archival stable black and white print film, supplemented by colour print photography for inclusion within a short analytical report.

A measured survey of all ground plans and elevations was produced using a combination of conventional drawn survey and prism-less, EDM-generated, survey data. Documentary research was also undertaken into the history of the building. The sources consulted are listed in Appendix I, at the back of the report. In addition, the desirability of dendrochronological sampling was appraised as a part of the evaluation of the building.

Historical background

Forge Mill Cottage (Plate 1) is situated close to the northern bank of a long rectangular mill pond next to a path that runs over a sluice. The Scheduled Ancient Monument of Forge Mill (SAM 326) lies 25m to the east and now houses the National Needle Museum.

Forge Mill Cottage and Forge Mill are clearly closely associated in terms of their historical setting and development (Plate 2). Indeed, both share the same plot of land that is sandwiched between the mill pond and a mill race down-slope and to the north, although Forge Mill Cottage is outside of the boundary of the Scheduled Ancient Monument.

On the northern side of the mill race lies the site of the Cistercian Abbey of Bordesley, founded in the 12th century (Fig.2), and extensively studied in the last 40 years. The site of the abbey is also a Scheduled Ancient Monument (SAM 261) and includes an extensive water system, fish ponds, and two mills of 12th to 15th-century date. After the Dissolution the abbey land was granted to Lord Windsor and became part of the estates of the Earl of Plymouth, and shortly after he built the iron-working complex called Forge Mill, that included three mills, a shafery, finery and forge. These mills were only one of a number located in this part of the Arrow valley, including other iron-working, corn and paper mills. In the mid-18th century the Chillingworth family of needle makers started to lease the mill (Adams 1998, 6). This change of use coincided with a tendency towards agglomeration within the iron-making industry as larger-scale production, using coal rather than charcoal, became more widespread. The earliest part of the west wing of Forge Mill appears to date to this period (WSM00019). In the early-19th century there was a big increase in production within the needle trade and much of the taller, east range of Forge Mill possibly dates to 1828 (Rollins 1966). Several of the other mills in the area also began to be used for needle making; however, it was still commonplace for a mill to convert from one type of production to another, particularly towards processing corn after the harvest in this predominantly agricultural area. It was only later, in 1871, that Forge Mill was converted exclusively into a needle-making factory (WRO BA10343 899 520 parcel 26).

Unfortunately, no direct references that might shed light on the development of Forge Mill Cottage were found during the present documentary search. The earliest depiction of the building is in 1844. This is on a Third Class Tithe map, drawn at a relatively small scale upon which the definition of buildings, that were not subject to tithes, is relatively poor. However, it demonstrates that Forge Mill Cottage stood in a piece of land called Needle Mill Garden in 1844. There is no discernible change in the building as depicted on the Ordnance Survey mapping between 1888 and 1939.

Description

General

Externally, Forge Mill Cottage has the appearance of a typical Victorian cottage; however, internally there are clues to a more complex structural history, including part of a timber frame. In addition, stone walling was reputed to have been recorded in the cellar in the 1980s, although this is now obscured behind modern brick walls and concrete underpinning. There is a tea room, formerly a brew house, to the north east of Forge Mill Cottage, but this was entirely rebuilt in the 1980s, and was not recorded.

Forge Mill Cottage was also extensively refurbished in the early 1980s to bring it back into use as a warden's cottage. This involved extensive cladding of both the exterior and interior historic carcass of the building, the complete replacement of the roof and windows, and the construction of a coal shed and store against the south-gable wall of the building. No records of these alterations were found, although Alan Jones the site warden in the 1980s remembered the stonework discovered when the cellar was cleared, and this event also has an SMR reference (WSM 03253).

The cottage is small, measuring only 10m by 6m in total. It has a roughly L-shaped, two-cell plan, which consists of a north-south aligned bay with an east-west aligned cross bay to the north. The exterior walls are one clamped-red-brick thick, but are whitewashed and rendered. The roof is clad with red-brown plain clay tiles. A large clamped red-brick chimney projects from the back of the northern gable of the cross wing, and this is the only exposed brickwork that is readily examinable. The building is one-and-a-half storeys tall, the upper rooms being built into the roof space.

The following description begins with the external elevations and works systematically around the building from the east wall that faces Forge Mill. Then the floor plans and the timber frame inside the building are discussed, followed by a short description of the roof (Appendix II).

East-facing elevation (Plate 1, AII/1)

This is the most important elevation that overlooks the Forge Mill. There is a recently built porch around an old-looking, oak-plank door giving access into the cross wing. There are two three-light casement windows to each side of the door at ground floor level, both are recent. Above the windows are two elongated cast-iron wall-tie brackets set at first-floor level. A small window is situated just beneath the eaves of the roof, providing light to the stairs. Two simple dormers project partly beneath the eaves of the roof and light the garret chambers above, each has a recent two-light casement window. The whole of the wall is rendered to ground level. However, limited examination of the footing found this to be of red sandstone within the southern bay of the building. The southern jamb of the door is built against the exterior of a wooden post that forms part of the timber frame within the building. This has two rebates cut into it that may have been for an earlier set of door furniture. The wall changes alignment quite perceptibly either side of the timber post.

South-facing gable (Plate 3, AII/2)

The gable is plain and rendered. There is a projecting corbel-step brick course at the edge of the gable, but this is of reused brick and is probably recent, as is a coal shed and store. Another small window set into the gable provides light for the garret, but it is not possible to determine with any certainty whether or not this is original.

West-facing elevation (Plate 3, AII/3)

The west-facing elevation directly overlooks the path over the sluice. The southern bay is plain and rendered with two recent three-light casements that are irregularly spaced. There is a small casement window set into the jamb of the cross wing that projects from the southern bay, but the rest of the ground floor of the cross wing bay is blind. There is a cellar entrance near the northern end of the wall at ground-floor level and a two-light casement set into the gable end of the cross wing, lighting the garret above. Again, the gable has a corbel-stepped, re-used brick, upper course.

North-facing gable (Plate 4, AII/2)

The north gable is dominated by the large projecting red-brick chimney that is roughly centrally positioned within the wall. The projection measures 6 feet in width and 3 feet in depth and is constructed of red clamped brick with dimensions of $8\frac{3}{4}$ by $4\frac{1}{4}$ by $2\frac{1}{2}$ inches. The chimney has been underpinned at the base and is stepped in towards the flue. To the west of the chimney on the ground floor is a small 16-light cast-iron framed window, the central four lights are hinged (Plate 5). Another small window is situated to the east of the chimney to light the first-floor garret over the cross wing. Again, the gable has a corbel-stepped upper course of re-used brick.

Floor plans (Fig.3)

The floor plan of the building is an irregular two-cell arrangement. The southern bay is actually a parallelogram, while that of the north bay is more regular, but clearly not exactly aligned to the south bay. The only evidence of heating is the large projecting chimney within the north bay that probably accommodated a range. This may also imply that the garret above was the main bedroom. The entrance from the east opens directly into the north bay, while it is unclear if the one to the south is original or not. Another oak-plank door provides access through the timber frame between the two bays of the building. The staircase is a modern replacement, but was reputedly oppositely aligned prior to the refurbishment (Alan Jones, *pers. comm.*). This would make more sense in terms of the positioning of the small window, which would then have lit the head of the stairs. The first-floor plan is likely to have also been a simple two-cell plan. There is also some earlier door furniture still attached to the frame opening into the garret over the north bay.

There are three cellars under the north bay. Access was via a barrel vaulted stepped entrance (Alan Jones *pers. comm.*) with a small cellar off and a larger cellar behind. Some stonework is visible in the north wall of the larger cellar, but it is largely obscured behind modern brickwork and concrete underpinning (Plate 6). Therefore, the question of whether or not there was an earlier structure here or not must remain open.

The timber frame (Fig.4)

The surviving element of timber framing is located at the junction of the north and south bays of the cottage. It consists of an isolated cross frame of simple, relatively light box-frame construction, that has been much altered. The frame is small, being 5m wide and 3m tall from base to tie beam. The building it was originally made for was probably single-storied. The principal rafters are pegged at the apex, but there is no evidence of a ridge purlin. The roof truss consists of a tie beam and collar and two queen struts. Originally, there was only a single pair of what were probably trenched purlins. The tie beam was subsequently sawn in two to accommodate a door into the garret over the cross-wing. The tie beam would have had a normal lap-dovetail assembly with the wall plates, but this is only visible on the western side of the assembly, and here the joint of the main post and the wall plate has been packed with part of a brick indicating that the wall plate is not original (Plate 7). There are four posts, the outer two having jowled heads, there may also have been straight, diagonal bracing between the outer and inner posts. The whole frame is now set upon a modern oak sill. The purlins are all later. Those over the cross wing rest directly upon the principal rafter, while those over the south bay are reused timbers inserted during the 1980s refurbishment of the building. The floor joists are also later, reused timbers, some of which have chamfers and simple stops.

Roof

The roof was completely replaced during the 1980s refurbishment of the property.

Interpretation and phasing

For analytical purposes the development of the building can be summarised within two main phases (1 and 2), with two more tentative sub-phases on either end of the chronology (0 and 3, respectively). However, given the extent of the refurbishment work there are limits as to what can be stated with confidence concerning the development of the building.

A preliminary phase, Phase 0, may be represented by the stonework seen to underlie the east wall of the southern bay and also reputedly observed within the larger cellar. There is also the issue of the irregularity of the plan of the southern bay, one reason for which may be that it was built over part of an earlier structure. However, it should be stressed that all of this is extremely tentative and that the data recovered by the building survey is far from conclusive.

There are number of structural elements which seem to indicate that the southern bay is earlier than the northern cross-wing. The most obvious of these are that cross wing is not on the same alignment, and that the tie beam of the timber frame has been chopped in half in order to insert a doorway into the garret over the northern bay. In addition, the

brick walls of the northern bay are slightly wider than those belonging to the southern bay.

There is insufficient evidence to support many ideas concerning the original form of the Phase 1 building. However, the simplest view is that it may have comprised a simple one-cell plan, was probably only a single storey in height, and that it was constructed in clamped red brick, but incorporated a re-used timber frame within its northern gable. The evidence of the lap-dovetail joint packed with brick is crucial here. Any evidence of any heating or sub-floor assembly in this part of the building, or indeed the original layout of the windows or doors is masked by later work. When viewed within the context of the Forge Mill complex it is not inconceivable that the Phase 1 building may have been simple accommodation for a sluice-gate operator, this is particularly so given the relatively dispersed location which argues against it being a store or barn. It is also worth noting the similarity in the carpentry of the north gable of the cottage and the gables of the restored threshing barn that is now part of the Bordesley Abbey Visitor Centre (Plate 8).

The Phase 2 construction of the northern cross wing can logically be seen as an attempt to upgrade and improve the rudimentary Phase 1 accommodation. The execution of the brickwork is more confident and the slight irregularity of the plan may be attributable to it having to fit the earlier Phase 1 structure. Phase 3 includes all later alteration work.

Dating

Given the extent of the recent alterations to the building, including replacement of the roof and windows, there is very little evidence upon which to base many firm assertions concerning the dates of the various phases outlined above. If Phase 0 can be proved, and there is more work required in order to prove this one way or the other, then it may date from any time during the life of the abbey up to the 18th century. For Phase 1, the combination of poorly aligned, clamped, 2½ inch thick-brickwork and the re-use of part of a timber frame points towards a later-18th century or early-19th date of build, particularly as very few structures of this lowly type survive from before 1750 (Brunskill 2000, 16). The character of the carpentry of the re-used timber frame is perhaps best seen within the later tradition of timber framing, exemplified by the economical use of materials and skills. The fact that the timber frame is clearly not original to the structure indicates that dendrochronological dating would be inappropriate. The improvements made to the cottage by the construction of a second bay clearly also belong to the early to mid 19th-century, as they also incorporate clamped red brick, together with the two oak-planked doors. However, the precise chronology of these changes can only be guessed at, and might have occurred within months or decades of one another. Phase 3 simply refers to all subsequent alterations and refurbishment work, mainly carried out in the 1980s.

Discussion

The historical and archaeological significance of Forge Mill Cottage may usefully be discussed with reference to the set of selection criteria promulgated by the Secretary of State in 1983 and in Planning Policy Guidance Note 16: Archaeology and Planning (DoE 1983 and 1990).

Survival/condition While the overall condition of the cottage is very good, this is largely due to the extent of the refurbishment works carried out in the 1980s in order to bring the building back into use. In this respect the replacement of the roof and windows and the cladding of the walls internally and externally have limited the ability to 'read' the development of the building from evidence of its fabric alone. However, under the cladding this evidence will survive within the original brickwork.

Period While the chronological span of construction of the actual cottage is limited in comparison to other monuments of other periods, it is of historical interest as evidence of the late-18th and early-19th-century development of the needle-making industry.

Rarity The building is of interest as a relatively early survivor of an ancillary building associated with the needle-making industry, even though it is not directly related to the actual production process.

Fragility/vulnerability The building is currently subject to a planning application for a change of use back from offices to domestic accommodation. Provided that these works are sufficiently mindful of the historic fabric of the building then it cannot be argued that it is unduly fragile or vulnerable, particularly as any new work will contribute to the overall maintenance of the building. Any ground work should, however, be monitored archaeologically.

Documentation It has been demonstrated that the survival of historical material relating to this specific structure is typical of a lower-status building of this type and period, i.e. it is largely confined to nationally derived 19th-century survey data, for example Tithe and Ordnance Survey mapping and census material.

Group value The building possesses substantial group value with the Scheduled Ancient Monument of the Forge Mill, and is an important component of the overall historical and visual setting of this nationally recognised industrial monument.

Acknowledgements

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Office (Fish Street), and Worcestershire Archaeology Service. The help of Alan Jones, the former warden of the museum and resident of Forge Mill Cottage during the refurbishment work in the 1980s is also gratefully acknowledged. The project was monitored by Mike Glyde the case officer for the planning advisory service of Worcestershire Archaeological Service. Finally, further thanks are due to David Prinsep, the Estate and Valuation Services Manager of Redditch Borough Council for commissioning the survey.

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Appendix 1: Documentary Sources consulted

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Page, W. and Willis-Bund, J.W. (eds) 1913 *Victoria History of the County of Worcestershire, Volume 3*.

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Ordnance Survey, 1:10,000 series, WorcsXXIII. 1st-4th editions, 1888-1939.

Search of archaeological sites in 500m radius of SP 0453 6853.

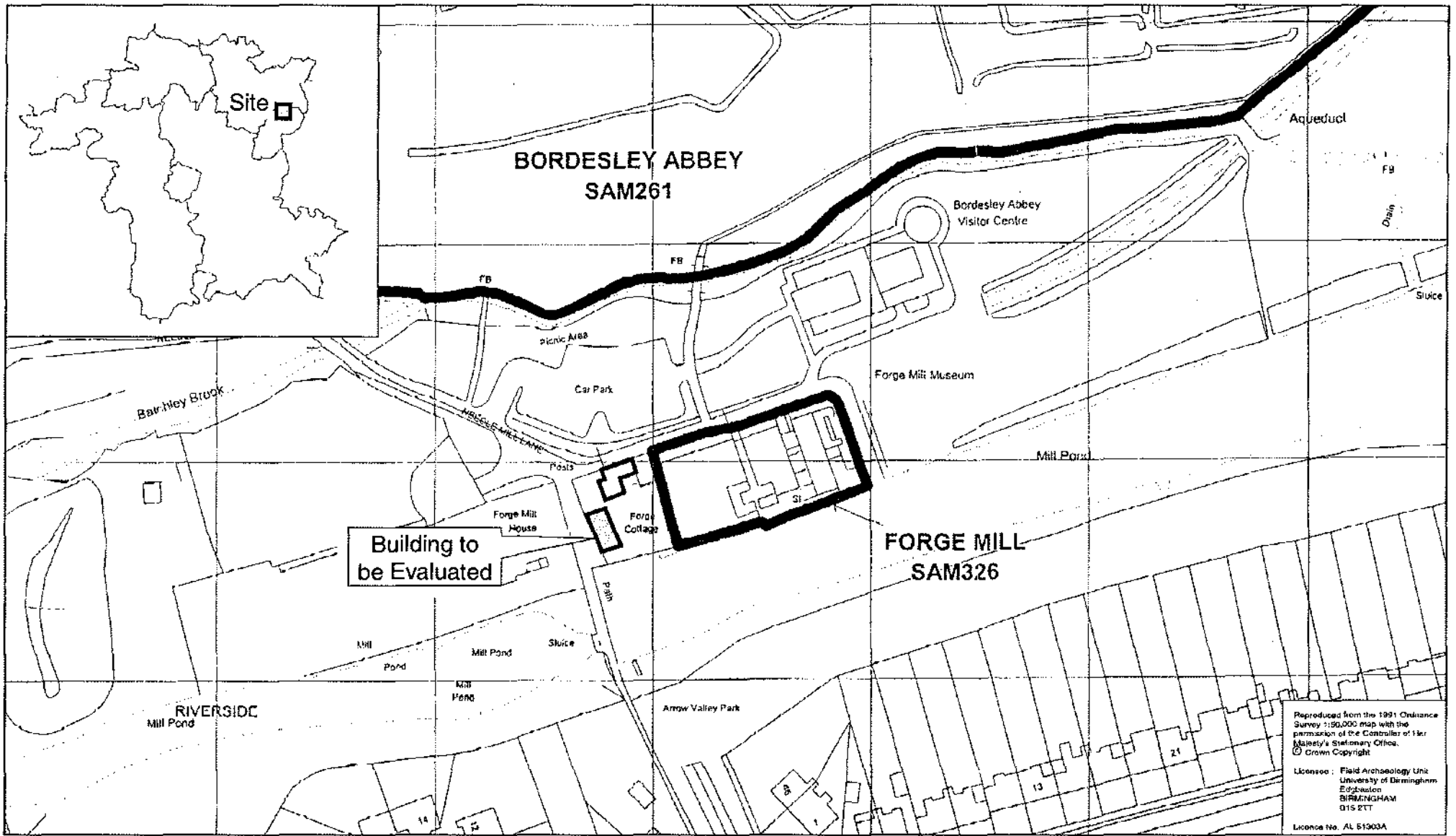


Fig.1

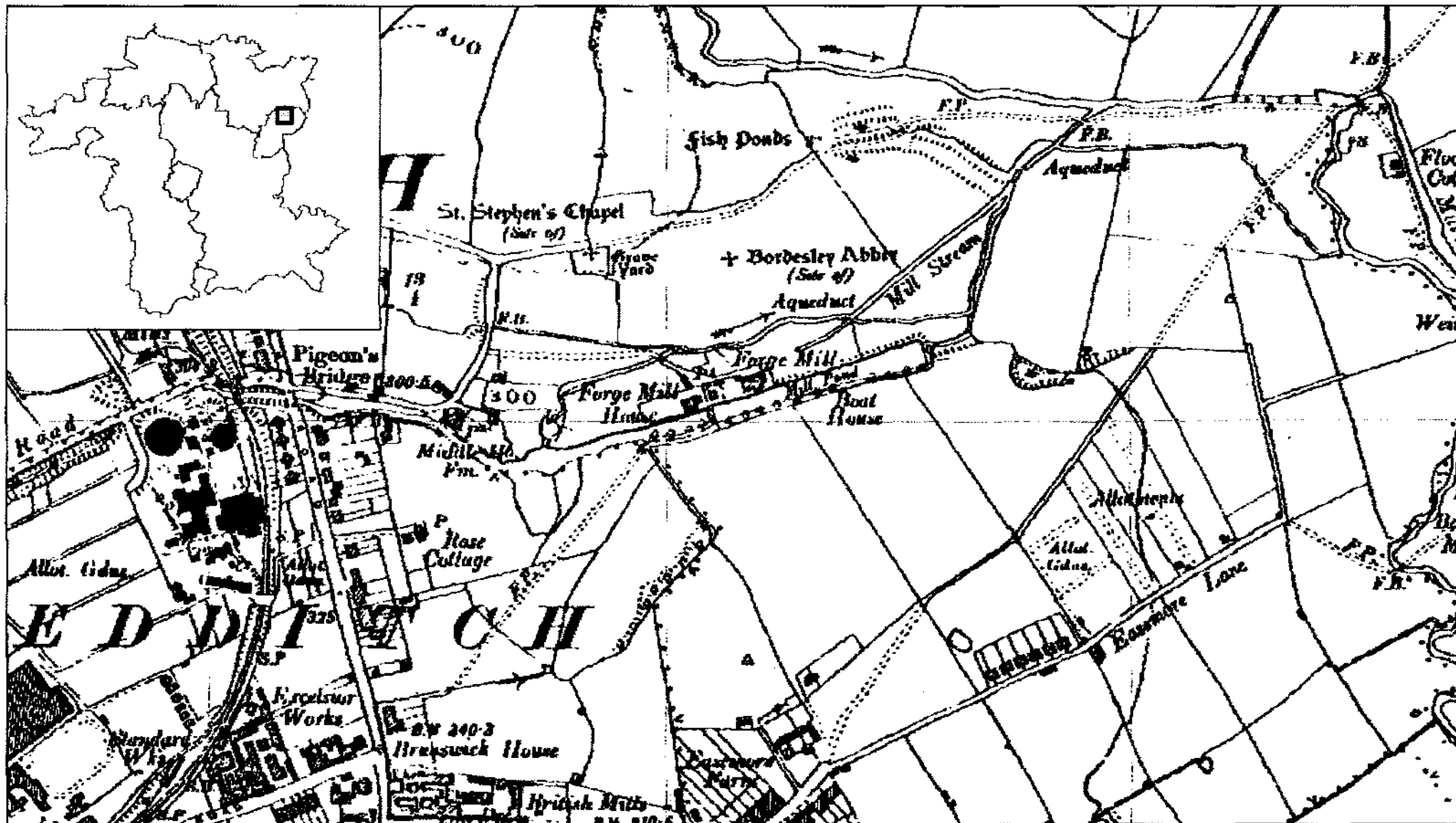


Fig.2

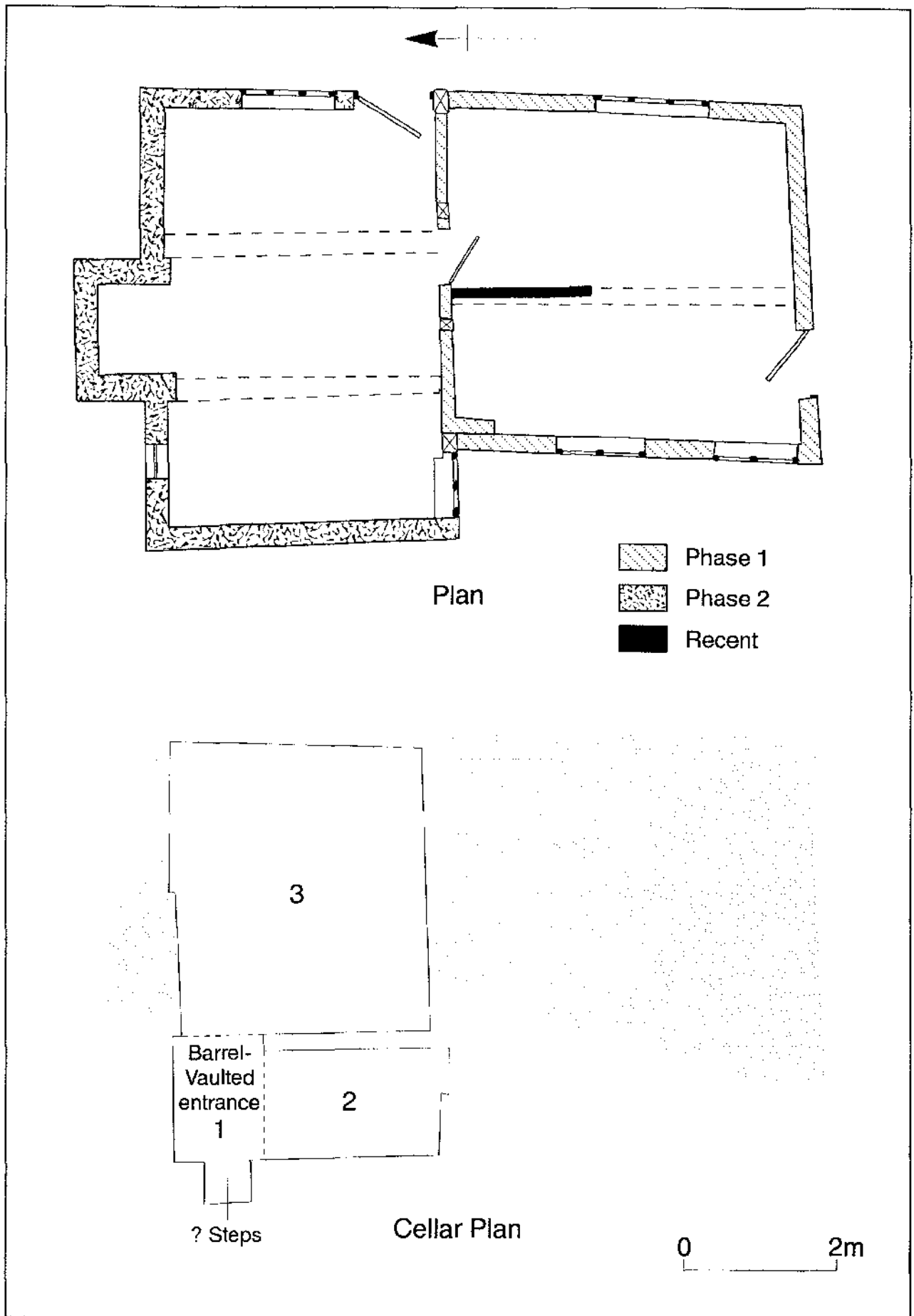


Fig.3

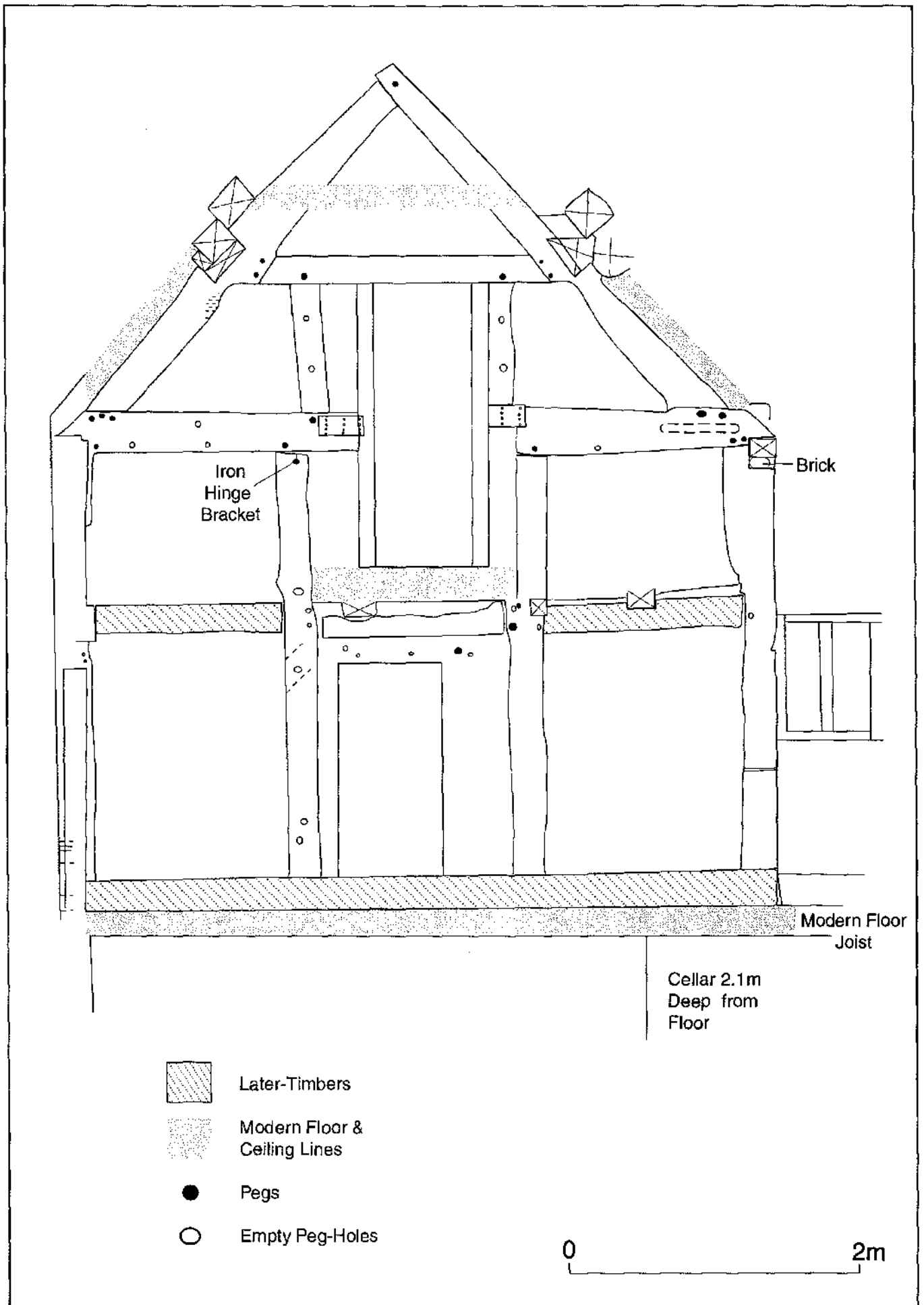


Fig.4



Plate 1



Plate 2



Plate 3



Plate 4

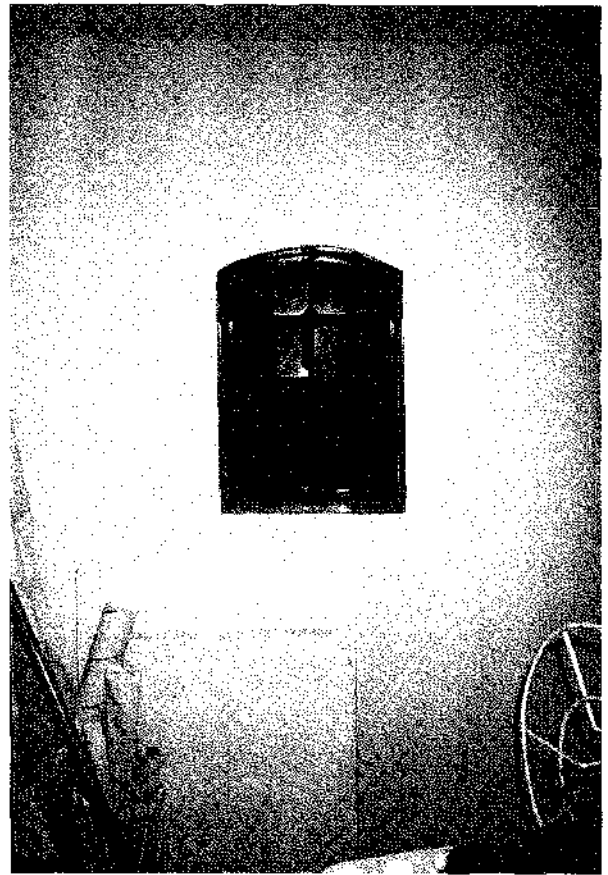


Plate 5



Plate 6

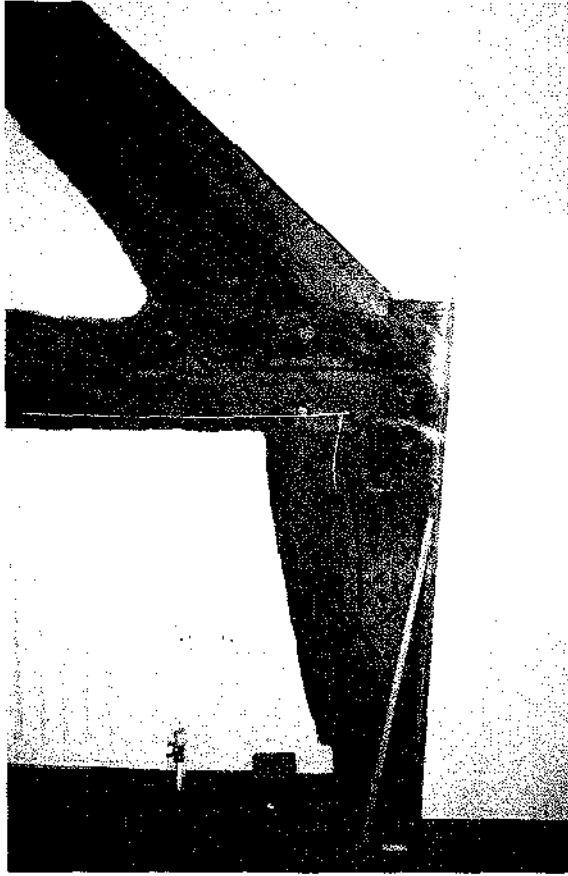


Plate 7

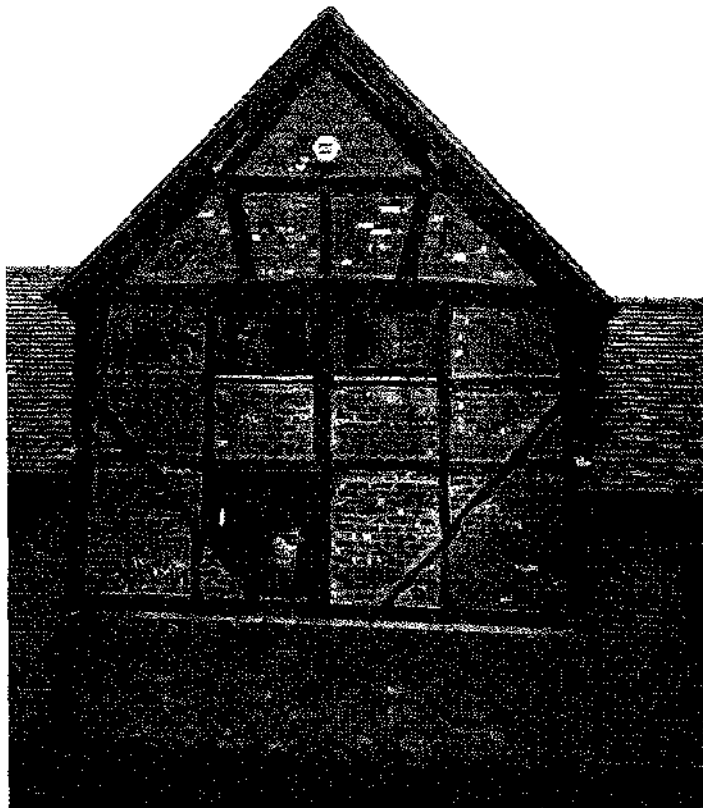
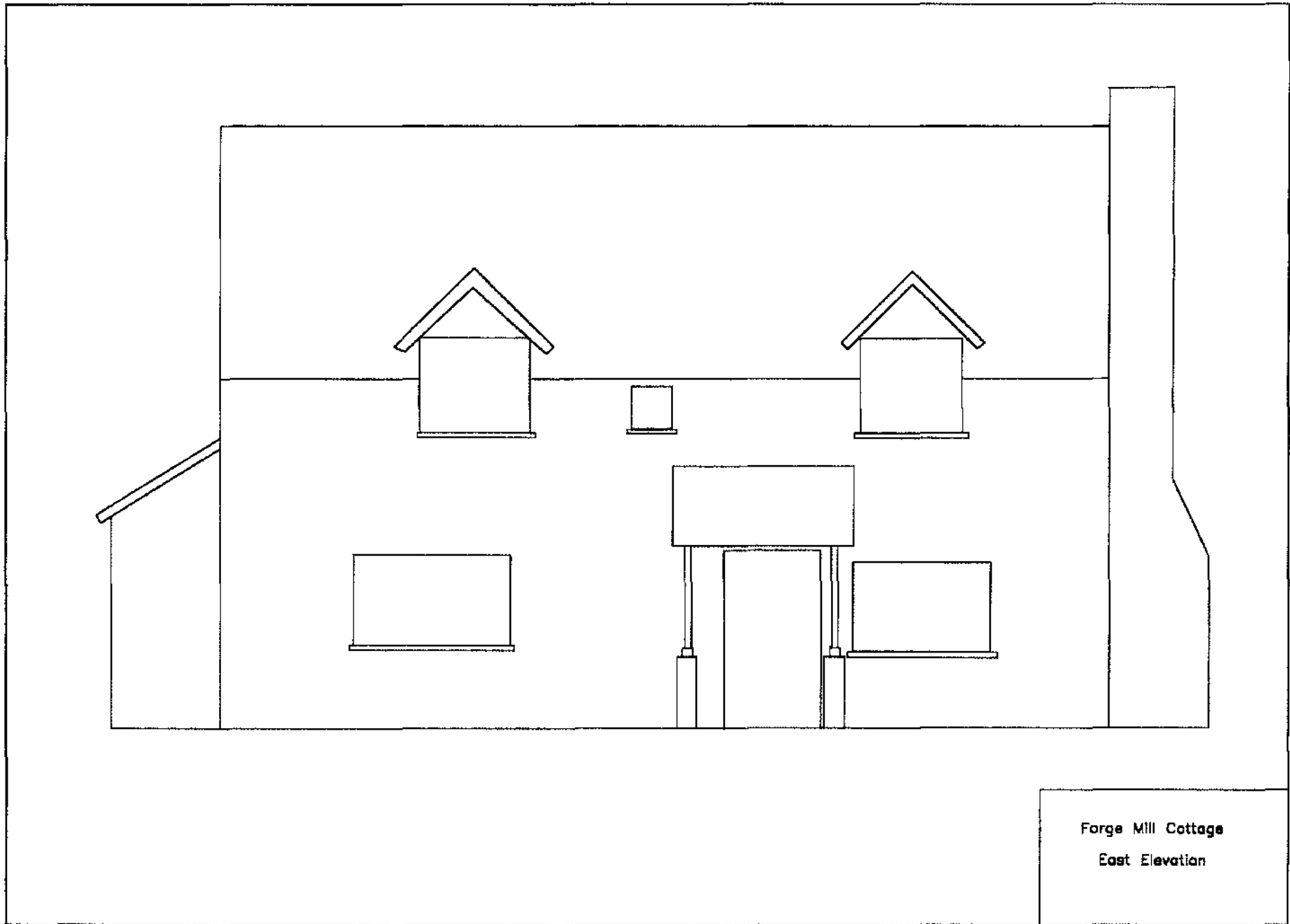
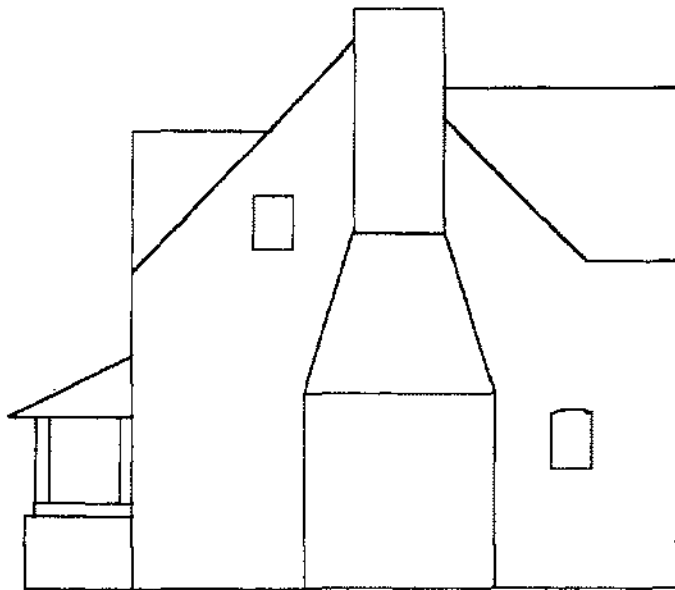


Plate 8

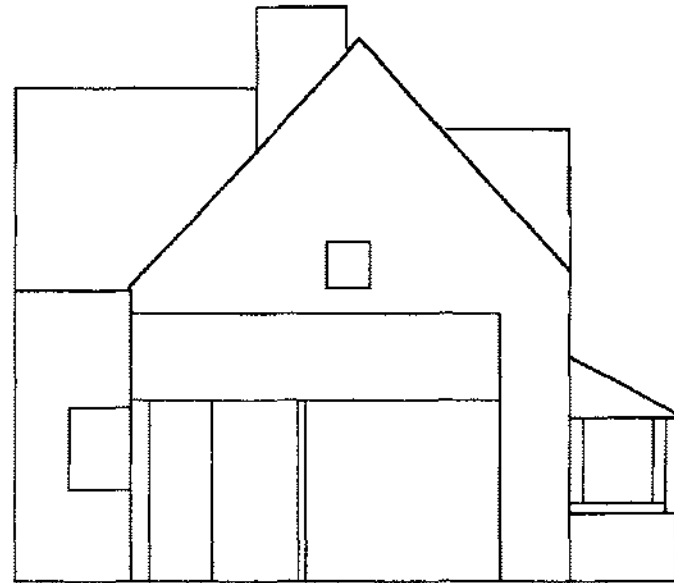
Appendix II



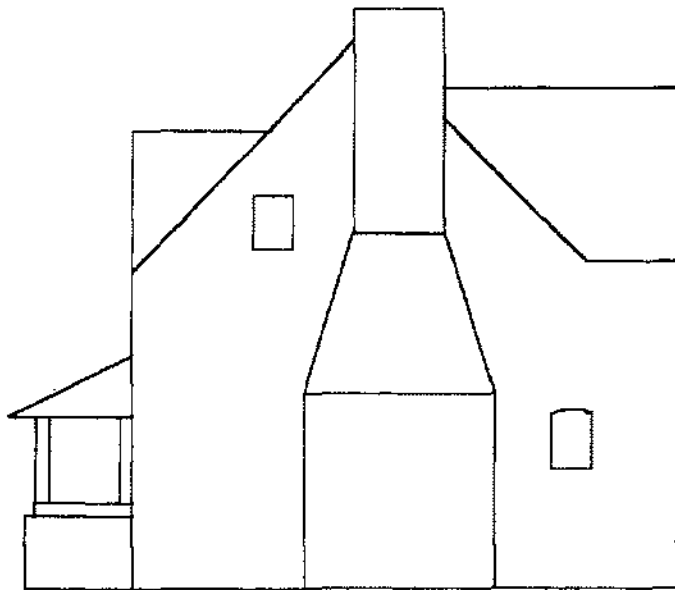
Forge Mill Cottage
East Elevation



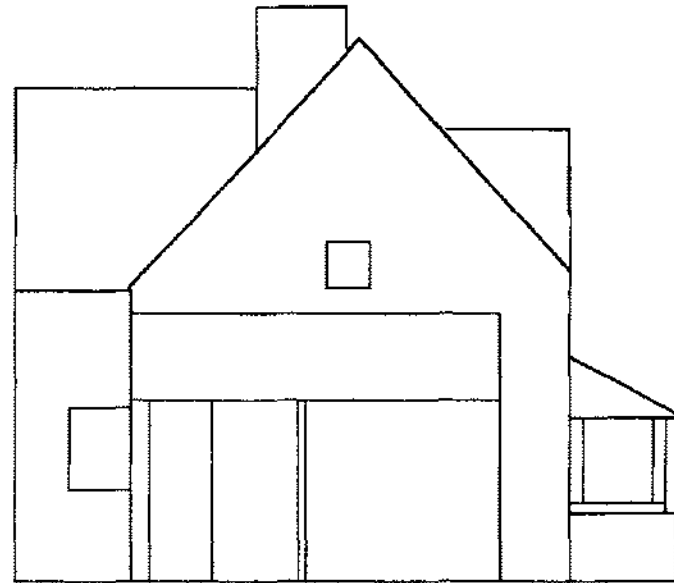
North Elevation



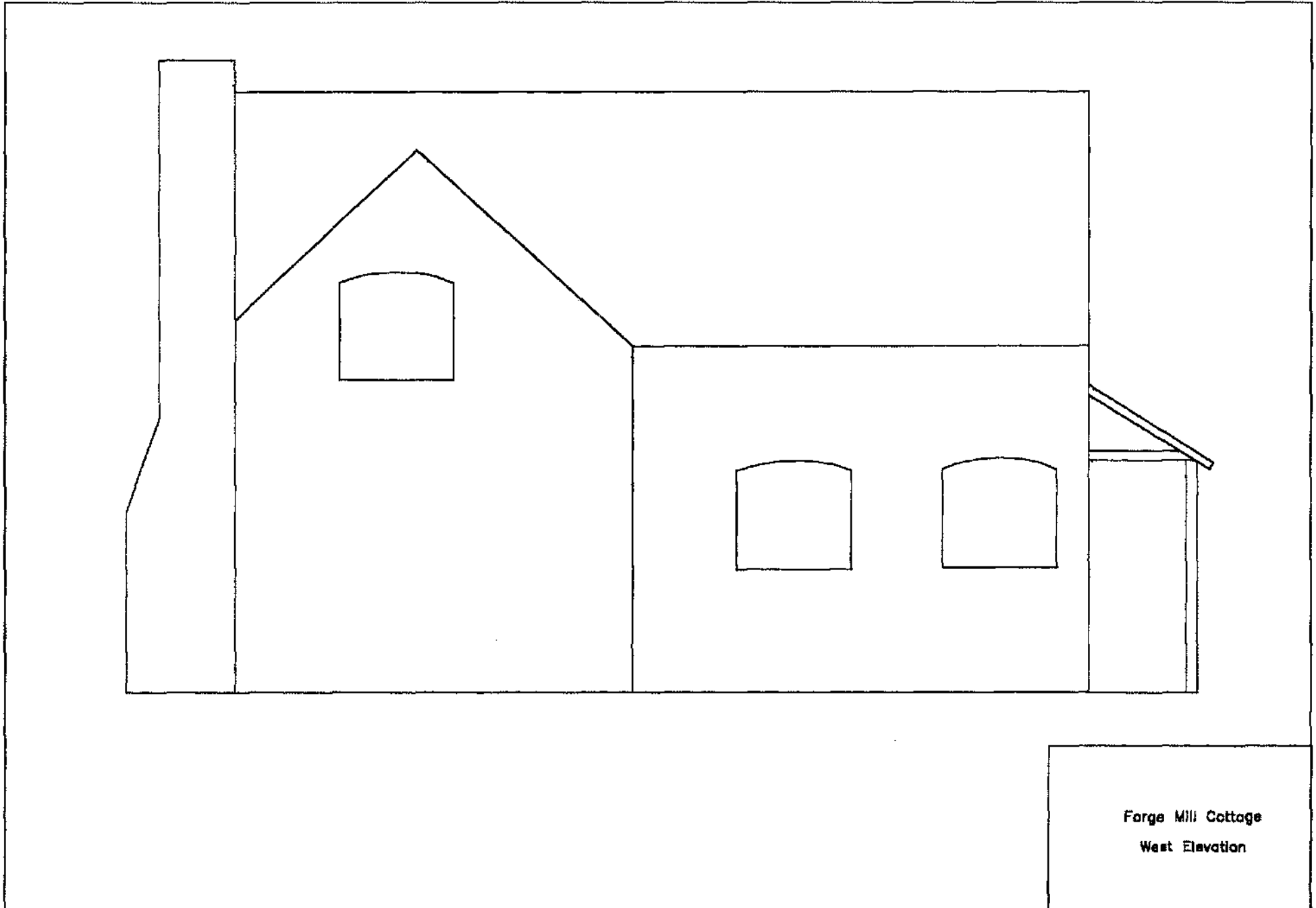
South Elevation



North Elevation



South Elevation



Forge Mill Cottage
West Elevation